A TRIP

TO THE

Diamond Fields

of Serro Frio, Brazil

(DISTRICTO DIAMANTINO)

BY

OLAF E. RAY

ATTORNEY AT LAW

CHICAGO, ILLS.

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CONVEYANCE IN COMFORT BEYOND THE RAILROAD.

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A TRIP TO BRAZIL.

Near the end of the month of September, 1903, I left Chicago for Brazil as attorney for the BRAZILIAN DIAMOND, GOLD & DEVELOPING COMPANY, to look into the legal aspect of things relative to titles, rights, privileges, obligations and general business conditions under the laws of Brazil.

On arriving in New York, I found the steamer Bellagio of the Sloman line of Hamburg, about to leave for Rio de Janeiro and I took first class passage on this boat from New York to Rio, paying $100 for my ticket. From New York to Rio is about 6,000 miles, which distance was covered in 24 days; touching at the old English colony of Barbados and at the Brazilian port of Pernambuco. All hands in the fore-castle of the Bellagio were Scandinavians, except the boatswain, who was a Swedish speaking Finlander. On the upper deck we carried a large number of Merino sheep and some young pigs, shipped to Brazil for breeding purposes.

We were five cabin passengers. We remained one half day in the harbor of Bridgetown, at Barbados and visited the famous Marine Hotel which had recently been bought by an American at judicial sale in the Chancery courts of London, where litigation for a number of years had been going on regarding this valuable property. It is located on the ocean side of the island of Barbados, surrounded by tropical vegetation, built in modern style with excellent service and accommodation, and is much sought by travelers from England and the United States, who come to this hotel to stay during the winter months, enjoying the constantly blowing north-east trade wind and the pure gentle fresh air.

The trip from Barbados to Pernambuco took nine days. The original Indian name for Pernambuco is "Itamaraca," and means "Stone with hole in." The inner harbor is protected by a shell and coral reef against which the ocean waves break, leaving a smooth anchorage inside. The population of the town is about 150,000; the streets are miserably narrow and the city was formerly the worst place in South America for yellow fever. An English company has built artesian water works for the city, and the street cars, telegraph, railways and many other local improvements have been financed largely by English capitalists. There are about 350 English people in town; they have their own Episcopal church, commercial club and graveyard. A Swede named Herman Lindgren, owns a large powder factory and carries on an extensive business generally. He enjoys the title of "O Rei de Pernambuco," (The King of Pernambuco.) Five Norwegian ships were in the harbor, being about one-third of all the vessels there.

Very little coal has, so far, been found in Brazil and wood was rather scarce in Pernambuco. Visiting the market I found wood sold by weight and small pieces were being put on and taken off the scales to balance little parcels from 10 to 25 pounds, which women and children bought and carried away on their heads.

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Some American and English dentists were doing exceptionally well in their profession. The Brazilians, as a people, have noticeably very poor teeth and it is good taste to use tooth-picks at the table. The most proficient and most patronized dentists seemed to be either American or English. About $10 an hour was their charge for services.

The language of Brazil is Portuguese, which approaches Spanish very closely and is generally understood to be more like Latin than any other living tongue. French, however, is recognized as the leading language of Latin origin and the books of tuition in special branches in many of the colleges and higher institutions of learning are in French. Gentlemen of scholarly pretentions must know French and one may go all through Brazil and find people everywhere who understand that language; though at small places far inland, the Catholic priests (padres) may be the only ones. As a rule the priests are very pleasant and obliging toward strangers. The working class in Pernambuco are mostly negroes. There is very little sickness, except some smallpox, and this disease they consider practically curable, while they dread the more dangerous "Pesta Bubonica" (bubonic plague). Going through the streets I failed to see a dog or cat except a couple of St. Bernards. Monkeys, parrots and singing birds were sold in many places. On board the Bellagio, we had two litters of kittens and these were traded off by the sailors and firemen at a valuation of from $1.00 to $1.50 per kitten.

A gang of laborers from the shore discharged the cargo for Pernambuco. At meal time these people gathered around a large wooden or tin dish filled with a sort of porridge of pieces of meat and corn meal; they rinsed their hands a little and simultaneously dived into the dish with their fingers, rolling small balls of meat and corn meal and threw them, dexterously into their mouths. The Chinese use chop sticks, but the Brazilian workmen, as a rule, discard even this little convenience. They use no bread whatever; corn meal and boiled black beans take its place.

In Rio de Janeiro.

We arrived in Rio de Janeiro on the 20th of October. The entrance to the harbor is charming; there are small islands, peaks, and peninsulas topping out of the waters, and it resembles a small part of the remarkable sea-coast of Norway. The harbor itself covers about 50 square miles and is one of the finest and largest in the world. The famous "Sugar Loaf" mountain peak is known to sailors everywhere and the oddly shaped "Corcovado," (hunch back) is another one of the characteristic freaks of nature that are seen on entering Rio. We anchored near the old Dutch fortress in the harbor, among vessels of all nations.

The two best hotels in Rio are Estrangeiros and Internacional, the latter is located near the top of the mountain "Santa Teresa," back of the city, and is reached by electric cars from the city; these street cars run upon and along the ancient elevated structure of the former aqueducts part of the way. It takes about 40 minutes to reach hotel Internacional. From this point there is a grand view of the city and harbor below. The price is 12 milreis ($3.00) a day for private room with all accommodations, and the table is excellent. This hotel was run by an enterprising German who had also built another one on the top of Santa Teresa.

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Anita Ray
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"Rio," means river, and "Janeiro" means January—making the "River of January;" there is, however, no river, but the discoverer of the harbor (Alfonso de Souza) believed, at the time, in the month of January, that he had the mouth of a river before him. It is quite common in Brazil, to give the names of dates and months to places, rivers, streets, etc. Thus in Rio the leading business street is called "Rua Primeiro de Marco," (First of March Street;) another leading street is called "Rua de Quinze Setembro," (Fifteenth of September Street.) The most prominent street of the city for leading retail stores is "Rua do Ouvidor;" the latter is only 30 feet wide with little cement sidewalks; in fact, the whole street is nothing more than a sidewalk. No vehicles of any kind are allowed on this street and the pedestrians swarm in the middle. Rio de Janeiro is the Federal capital of Brazil and the present Mayor is a man of advanced ideas. He has brought about many great improvements and recently obtained for the city a loan of $40,000,000 to rebuild the docks and wharves and improvements along the harbor. This loan was backed by the Federal Government and the contract was given last November to the firm of Walker & Co., of London, England.

On staying in Rio a short time, an American realizes readily that although he is on the western hemisphere, England and Germany predominate in the financial world. There are three English banks doing an extensive business, namely: The London & River Plate Bank; the London Brazilian Bank, and the British Bank of South America. There is no American bank and few large industries or financial enterprises are conducted by Americans or American capital. The American flag was not seen in the harbor of Rio and the American dollar is of very small consequence compared with the British pound sterling.

The money system of Brazil resembles what is known in our country as the "Green Back" system. The paper currency reads: "For value received, the treasurer pays to bearer (blank) milreis;" nothing is mentioned about payment either in gold or silver. When I came to Rio, the exchange stood: 1 mil-reis (gold) 54.6 cents, 1 mil-reis (paper) 24 cents in American money. From day to day the exchange varied and before making payment in considerable amounts, it became necessary to look up the quotation for the day, at the banks where exchange lists were conspicuously exposed to the public. Ordinarily, 1 milreis was considered the equivalent of 25 cents, and small transactions were made daily on that basis.

A Norwegian named S. Wollner, carried on a very large exchange business (casa de cambio) in the business center of the city. He was fifty-three years old, had lived in Rio over thirty years and commenced work at his trade as a watch maker. He is now a very wealthy man of great standing in financial matters.

The United States Consul in Brazil, Mr. Eugene Seeger, is a Chicago man and a German by birth; he was well pleased with his position and enjoyed good health; had no fears whatever of yellow fever or the bubonic plague. He lives in Petropolis, one of the pretty suburbs of Rio, with his family. The Consul was pleased to meet another Chicagoan, and we engaged in much interesting conversation about matters at home. He rendered me much assistance and offered valuable advice regarding affairs in Brazil. In foreign lands a traveler realizes the important services rendered by our American Consuls.

The Consul for Sweden and Norway in Rio, Mr. I. M. Bolstad,

is a Norwegian by birth and has served at his post many years; he has had the yellow fever, but yet thinks well of Rio, both as a business and residence place. Mr. Bolstad has much to attend to in his consulate connected with the large shipping interests of Norway in these parts.

There is a very good sewer system built by an English firm. Some yellow fever and smallpox is always found in Rio, but these diseases are not as ravaging as in former days. At the time I was there, the bubonic plague was present, and a good many died from that dreadful malady. It attacks the glands of the body to begin with, and makes short work of its victims. The Austrian Consul died from that disease while I was down there. Walking through the streets of Rio, the odor of creoline, a chemical disinfectant, was met with all over, particularly in the more squalid residence portions of the city. Brazilians from the interior were more apprehensive of catching the plague than foreigners. Careful diet and cleanly habits are the best preventives. Rio has a population of about 500,000, and considering the great number of people, the yellow fever and bubonic pest are not as formidable as we imagine in the States, when we read and think of South America. It must be considered that our Northern diseases, such as pneumonia, diptheria, consumption, etc., are comparatively scarce in places like Rio.

While in Rio I visited an alcohol exhibition one night, held at Park Fluminense. All kinds of alcoholic machines from Europe and the States were on exhibition. The raw sugar cane was piled high. Crushing machines and distilling apparatuses were working turning the cane into alcohol, which was then used to set in motion the different machines. Alcohol is being used as a substitute for coal and the exhibition was calculated to stimulate the invention and use of that kind of machinery. An alcohol automobile, the only one I saw in Brazil, was in operation in the Park. The power-house machinery was marked "Springfield, Ill.," and that of course pleased me very much.

Little cups of black coffee (about two spoonfuls) were being served all over Rio in little places somewhat like our ice-cream parlors. Iced fruits, lemonade, and a variety of good wines were the favorite drinks; the coffee, however, ranks as the foremost Brazilian beverage, and is considered to have the effect of preventing yellow fever. The people drink coffee many times a day, but foreigners down there must exercise some caution, because the preparation is made from pulverized coffee and is very strong.

In calling at a house in Brazil, it is not customary to knock at the door, but the visitor stops about three feet from the door and claps his hands three times as a signal that he wishes to communicate with someone inside. Their manner of greeting is different from ours; strangers shake hands as we do, but friends and acquaintances walk up close and place the right hand on one another's back, making three light taps in an affectionate manner. In concert halls, the public often signify their applause by throwing hats in the air and upon the stage promiscuously.

After three days' stay in Rio, I took the Central Railway as far as it went, on the way to Diamantina. The travel by rail took 27 hours, and the distance to the end of the railway is about 400 miles. The ticket cost $20 and my little baggage as much, because on the Brazilian railways they allow no baggage free, except little hand grips,

On the way up, I visited Bello Horizonte, the capital of Minas Geraes. This is a new town built within the last ten years on a modern plan.

At Silva Xavier where the railway passenger service ended, I went by freight another ten miles to a town called "Hospital." At this little place I was met by one of the company's camaradas, (servants) with about a dozen of the company's mules, saddles, pack saddles, camp-beds, covers, blankets, etc., to make the trip across the mountains. We started from Hospital in the forenoon, four in all, with 30 mules and three camaradas. One of the fellow travelers was an old Brazilian, formerly a nobleman, and once attached to the Court of Emperor Dom Pédro. The gentleman's name was "Visconde de Tourinho," (the last word meaning "Little Bull.") He served at the Court until the dethronement of the Emperor and was present at his burial in Paris, 1891. He spoke English and French very fluently, and was a pleasant traveling companion on the way out. The first couple of days were rather hard on a beginner in the saddle, but after that mule riding became a sport. We stopped the first night at a little mule farm called "Getolio," and the following day at seven o'clock we were on muleback again; crossing the Rio das Velhas, (old women's river) later in the day on a pontoon; still later, we crossed Rio Parauna in the same manner. We had to unload the cargoes from the mules in crossing the rivers. These rivers are from two to three hundred feet wide and twelve to fifteen feet deep, subject to great floods during the rainy season. Both of these rivers are said to carry gold in the sand and a Brazilian mining engineer was making proofs on Rio das Velhas with an American Keystone testing machine. The first couple of days' travel was over a territory covered by little hills of crumbling sand stone, with some flat dry land here and there, and an occasional creek to cross. There was considerable wood, but mostly small trees crippled by heat and drought. The vegetation was tropical, but scarce and had suffered from the long dry season.

There are two seasons in this part of Brazil, the dry and the rainy season. The latter commences about the end of November and lasts about four months, the heaviest rainfalls occur in January and February. From the beginning to the end of November it is as a rule, a continuous stretch of dry weather.

The soil is red everywhere and the deepest reefs and washouts show no other color. It is very fertile and during the rainy season produces rich crops with very little cultivation.

The second days' travel from Hospital goes through a wooded country for hours. We passed through bushes in Indian file, one mule after another. The road is simply a deep mule path, and the animals being small, our feet in many places touched the ground. It is nobody's business apparently, to keep the road in repair; where a tree falls down across the road, it remains in that position for years and the mules must beat a new track around the obstruction. The second day we saw ahead of us in the blue distance, the outlines of Serro Frio; the tops of this region seemed to mingle with the clouds and as we approached we wondered how in the world to climb and get across. There are no farms, (in our sense of the word) to be seen. The people of that region live in little houses made of small striplings woven together and plastered over with red clay, the roof being mostly of straw or sod, sometimes of primitive tiles. The ground serves as

a floor; there are no chimneys and the smoke from the fireplace goes out between the roof and the walls where there is an 18-inch opening; windows are not seen, but little openings with shutters are customary; such are the houses of this rural population. No implements of any kind exist on the premises; shovels, spades, wheelbarrows, axes, and other things of that nature are not found. The people live in the most primitive manner and depend upon fruit, a cow or two, some pigs, and some chickens for existence, all of which animals pick their living wthout human assistance from one end of the year to the other. Near these little huts are commonly seen sugar cane, coffee bushes, a few banana, orange, and lemon trees. There is no cultivation of the soil or clearing of stretches of ground; corn and beans, the two principal staples, are planted on small patches near the hut, between trees, stumps, hills, stones and other obstacles that are never moved but always dodged around. The farming implements seem to consist of a sharp stick to make a hole in the ground to drop bean and corn seed into. Toward the end of the dry season, they set fire to the dry vegetation and that is all the clearing ever done.

Once in a long while, a larger place (Fazenda) is met with and there we find a higher order of things. Antiquated farming implements, generally a flour mill worked by overshot wooden water-wheels, a distillery for making the native brandy, (Cachaca) and a place for dairy work. There are no swamps, the ground is hard and dry throughout, and is either red, deep soil with some vegetation or in other places naked sand stone. There are no mosquitos or stinging flies, but yet there are great varieties of insects in the woods and shrubbery. Brazil is even reputed to have the richest of insect life. The ants build hives or houses of red clay and join the particles together in such a durable manner that some of the great number of ant hives are from two to six feet high and about three feet in diameter at the bottom, and so hard that they resemble brick. They are found quite often built upon branches high in the trees, and upon ledges of rock high above ground; some of these remarkable ant hives are reputed to be centuries old and constitute one of the natural curiosities of Brazil. Bugs of many kinds and colors creep upon the ground, and little boys make a business of catching them in quantities, selling them to the jewelry trade for use in making ornaments. Snakes are scarce in the dry season, but become numerous when the floods set in.

In the Serro Frio district of Brazil there are not many birds to be seen; the most noted ones are the Colibries or humming birds; these little ones are beautiful and are called "Beija-flor" (kiss flower) in Portuguese. Towards evening of the second day we brought up at the most noted place on the road, being a large Fazenda (farm) 20 miles square called Marinho; the owner is one Antonio Denis, whose grandfather was a Frenchman, and he speaks and reads French fairly well; he has five children which he himself educates, there being no schools in that part of the country, except at times when the Catholic priests arrive on their circuits. There are 350 head of cattle and a great number of sheep and goats on this Fazenda. Mr. Denis raises a good deal of sugar cane and runs a large Cachaca distillery, supplying this mountain region with his products. A little river crosses this Fazenda and along its course is a luxuriant growth of tropical fruit trees and other vegetation. Mr. Denis showed us great hospitality;

fruit was so plentiful that it seemed to have no value and much was decaying on the ground without having been gathered up at all. We paid 20 milreis ($5.00) for supper, bed, breakfast for two, and including also, pasture for the night for the animals. This is a little less than the average charge on the way to Diamantina.

Mr. Denis was born in that country and knew personally many of the men within his generation, that had made fortunes on the gold and diamond fields of the Serro Frio district. He is himself no miner but expressed great pleasure at seeing Americans go into those parts with money and means to exploit in a modern manner, what the Brazilians in their day and by their primitive methods could not touch. He had offered to sell his Fazenda for $15,000 but thought that he would want $25,000 now since activity had commenced to set in. His farm lies a day's journey from the beginning of the diamond district. On our departure in the morning he filled our saddle bag bottles with Cachaca of the first quality. He made me personally a present of the skin of a sloth, (Preguica) and gave us more fruit than we could carry, and as we spurred up our mules, he shouted "Au Revoir."

The third day took us over naked mountains rising higher and higher until we reached the summit of Serro Frio, about 5,500 feet above the level of the ocean. The roads were bad and narrow and at places we had to dismount and climb between the rocks ahead of the mules. On the very top of the mountain range we passed a nice little Fazenda where all sorts of fruits were raised and fine goats and cattle pastured. The water in these mountains is ideally clear and sweet and the air is pure and rare.

The diamond region (Districto Diamantino) commences near Serro Frio. From the top of the mountain chain we viewed the fields where many fabulous fortunes had been taken out in the past. The evening of the third day landed us at our last stopping place, named "Tegra." This place affords very good accommodation for travelers, but the price demanded is almost twice that of the previous places on the road. There is a small store and Catholic church in Tegra. The fourth day on mule-back took us through a singularly interesting country with ravines and washouts, which indicated an unusual disturbance of the earth's surface at some time. At a point about ten miles from Diamantina, our cavalcade met a lonely man on horseback, that upon closer approach proved to be Mr. Thomas Schlytter, the company's representative in Brazil; he looked healthy, though somewhat sunburnt, full of life and vigor and he saluted me most cordially on recognition. He was anxious to receive news from Chicago, having been away over seven months from friends and acquaintances. He turned his horse around and piloted out troop toward Diamantina, telling us all about the interesting points on the way. In the distance a couple of church steeples loomed up behind the line of naked rocks and Mr. Schlytter told us it was Diamantina.

In Diamantina.

We arrived safely toward evening of the fifth day and Mr. Schlytter had secured quarters for me in the house of his own landlord, Mr. Augusto da Matta Machado (Wood Axe). There is no hotel in Diamantina and travelers have to stop with private families. Mr. Matta Machado's brother was Minister of Foreign Affairs in Brazil during the reign of Dom Pedro, and the family is one of the leading

ones in that part of the republic, both as to wealth and social standing generally. They are pure white people of culture and refinement, and the house now occupied by them is very old and belonged formerly to the Crown of Portugal, during the royal diamond extraction period in the early part of the last century.

The room to which I was assigned adjoined that occupied by Mr. Schlytter. The doors were eight feet high; there were no window panes, but shutters. The house had eleven rooms and a large dining hall, furnished with old but good furniture, including a square piano. The family consisted of eleven children, of which four were adult daughters, one of which played piano well.

The second story of the house was occupied as living rooms, and the downstairs was used as store rooms, and living rooms for three camaradas, that attended to the animals. The yard was full of chickens, young pigs, and mules. In the rear of the house was a garden about 50 feet wide and 200 feet long running up and over a steep hill with four flights of stairs leading to different sections of the garden. The water was very good. There is no sewer system in the city, but the streets being very steep and well paved with stone, the refuse is washed down by the rain during the wet season and during the dry season it is cleaned away chiefly by droves of chickens that swarm the streets and do the scavenger work.

There are no flies, mosquitos or insects in the city. For fuel they use wood, which is carried in largely by women and children of the poorer classes that have access to the shrubbery for such purposes. The population of the city is estimated at about 9,000 and the principal business and industry appears to be gold and diamond mining and trading in the products of such mines. They live well, without much excitement. Everybody seems to take life easy and no one is in a hurry about anything. Breakfast (Almoco) is taken about eleven o'clock and consists generally of meat, oftentimes chicken, boiled beans, boiled rice, marmalade and other fruit deserts, native wine (Vinho Nacional) is always on the table. After the meat comes coffee served in little cups; the men light their cigarettes and leave the table. They maintain French table etiquette. The second meal is the principal one and is called "Jantar; it is taken between five and six in the afternoon. They have only two meals a day; there is no regular bakery in town, and bread is hardly ever used. There are no vehicles to be seen in the streets, except ox-teams now and then, but long trains of cargo mules come and go at all hours of the day.

The altitude of the place is about 5,000 feet over the level of the ocean. The days are not so very warm, the air is pure and invigorating but the nights are very cool throughout the year and strangers feel chilly in their beds with two heavy blankets. The sanitary conditions are very good; there is no pest or fever and the people as a rule are very healthy. Doctors and druggists find but little to do. There is no bank or photographer in town; a newspaper is published once in a while during political or other excitement. The sidewalks run in the middle of the street and the churches have no pews. The Contractor's building, put up a century ago, during the royal extraction is now used by the Catholic Bishop for residence and church purposes. The diamond district (Districto Diamantino) forms a judicial circuit and the judge is a distinguished Brazilian of high culture and scholarly attainments. The court-house with the jail below is located

VIEW OF DIAMANTINA, SHOWING ITCEMBE MOUNTAIN.

in the middle of a small square and the prisoners enjoy unusual liberties, lounging about the iron barred windows looking into the streets, reaching out their hands to passers-by for gifts of any kind, such as tobacco, cigarettes, coins, fruit and whatever they may be able to get. When a stranger happens along they crowd in droves to the windows and all beg at once. These are the only beggars I met with in Brazil. The female prisoners made handiwork of all kinds and sold their articles themselves through the iron barred windows direct to the public on the street and in the corridor of the jail.

Tropical fruit trees are plentiful. They are not in season all at the same time but bear fruit by turns; some bear fruit three times a year, such as the Jaboticabeira; the fruit of this last mentioned tree is the Jaboticaba berry; they grow on the bark of the tree along the trunk and branches; in appearance they are somewhat like dark cherries but much more tasty and nourishing.

After a couple of days' rest in Diamantina, I went to work investigating matters pertaining to land titles, legislation, taxes, market prices, etc., relative to lands purchased by the company I represented. Not being a person skilled or experienced in mining matters, I could not personally conduct any investigation as to the mineral richness of the lands in question, but I gathered such information in a business way, as any common sense man of affairs could do.

History of the Diamond District.

I tried first to secure the history of the diamond district and learned that only one book had ever been published of that kind. It was called "Memorias do Districto Diamantino," and was written in the year of 1862 by Dr. Felicio dos Santos, who was a patriot, a jurist, and a practising attorney at law in the city of Diamantina. The book was out of print and for days I tried in vain to secure a copy, when I learned that a son of the author was a practising attorney in the city of Rio de Janeiro. I put myself in communication with him and secured one of those rare copies. He had only three books left, of which he gave me one. It was written in Portuguese and the following historical matters were taken from the book:

Rumors of the gold bearing tracts of Serro Frio which were discovered at the end of the 17th century attracted a large number of adventurers from other parts of Brazil; they arrived in large bands called Bandeiros. It is supposed that the name "Serro Frio" which they gave this wild tract is a translation of the Indian word (Iviturury) which means (The cold mountain.)

Regarding the founding of Diamantina tradition relates: After the discovery of Rio Peruruca and Rio Grande a band of adventurers followed the upper bank of the latter and were confronted by a great marsh. Beyond was seen a little river flowing from the mountain ridge on the east and emptying after a short course into the Rio Grande. They named the little river Tijuco, an Indian word signifying "mire." The ground was found to be very rich in gold. The gold bearing stratum reached from the base to the top of the adjacent mountain elevation and far along the banks of the Rio Grande until it reached the Sao Francisco river. But the banks of the Tijuco were the richest. Rivers from the mountain on both sides washed the gold-laden soil down into the marsh which lay like a reservoir below.

News of the discovery spread quickly and a new settlement was

at once formed. For better protection against wild animals and Indians, the inhabitants of Peruruco moved to Tijuco, which, though the younger town, was the larger of the two, because more gold was found there. Thus Tijuco, the present Diamantina, was even at this early day an important place. A chapel was erected and the first huts built near the present Rua da Beata, Rua de Burgalhao and Rua de Espirito Santo. The present market place Bom Fin was at that time a little green plain, shaded by large trees under whose branches the inhabitants gathered to enjoy rest, song and mirth, after a hard day's work.

Nothing is really known as to where and when the first diamonds were discovered in Brazil. This is natural inasmuch as the first inhabitants sought only for gold and did not recognize the value of the diamond. The little stones whose shape and beauty attracted attention were by some put away as keepsakes but more often used as playthings. Certain it is, that in the year of 1729 a number of these stones were sent to Portugal to be examined. When it was thus proven that they were diamonds, topaz and other precious stones of unusual purity, there was great rejoicing at the court of King John the Fifth. Celebrations were held, and feasts given, not only in Lisbon, but throughout the whole country. In all countries Te Deum was sung in the churches, religious processions arranged and thanks given to God for this epoch-making discovery, which it was thought would bring rich blessings to the world. The Pope and all the princes of Europe sent congratulations to the King of Portugal.

Those who came first found rich reward for time and labor spent and soon Lisbon was flooded with Brazilian diamonds. This awakened the envy of the court and the crown then decided to appropriate this wondrous wealth. In accordance with this decision a royal decree was issued March 26, 1733, forbidding the utilization of the diamond fields. This interdiction covered all the fields except the banks of the Rio do Inferno and Rio Jequitinhonha whose shores were to be divided into lots and rented to the highest bidder. It also required that no bid should be accepted less than $30 per year pr. Braca quadrada (about 4 square meters.)

This decree which contained many tyrannical orders was carried out in all its severity in spite of numerous protests. The high rent was almost prohibitive. The poor could not pay and the rich would not part with their money under such unjust conditions. The result was that many were robbed of a livelihood and were obliged to forsake their homes.

In the interest of the crown a contract system was organized in 1740 whereby privileges were given, under certain conditions, for a limited time, to utilize the diamond fields. Joao Fernandes de Oliveira and Francisco Fereirado Silva were the first contractors. Their contract lasted from Jan. 1, 1740, to Dec. 31, 1743. They pledged themselves to drive 600 slaves in and near the river Jequitinhonha, beginning at Lavra do Mato and up along the river. They had also the privileges of continuing their work on Rio do Inferno and Rio das Pedras. The names of the 600 slaves were to be kept in a book and for each of them the contractors paid 230 milreis per year to the Crown. They were forbidden to work a greater number of slaves. It is said that occasionally the contractors had many more slaves—up to 4,000, but the revenue officers kept sharp watch, and any breach of contract

CITY MARKET IN DIAMANTINA.

was severely punished. A renewal of the contract for four years was granted the first contractors.

The third contract was given to Filisberto Caldeira Brant, Jan. 1, 1748, to Dec. 31, 1751. The conditions were about the same as in the first contract, except that only 400 slaves were permitted to work in the Serro Frio district and the remaining 200 in the newly discovered diamond fields in the Province of Goyas.

During the dry season he was assigned to the river bed of the Jequitinhonha near Lavra do Mato also Rio das Pedras and Rio do Inferno. In the dry season he was to work adjacent land designated by the Intendant.

At this point in the narrative of Dr. Santos, it may be stated that the Brazilian Diamond, Gold & Developing Company of the United States has under contract of purchase three river claims at the junction of the river Jequitinhonha and Rio do Inferno. The Rio do Inferno signifies the river of hell, and the country around by reason of its rough and imposing nature may properly be called the infernal region. The mountains on the east side of Rio do Inferno rise almost perpendicular from the river to an altitude of from one to two thousand feet, and it looks as if the earth at some time had gone through volcanic upheavals.

The upper limit of the company's claims on the Rio do Inferno is at a small creek called "Beija Flor;" immediately below this creek is a series of waterfalls affording ample horse-power for installation of hydraulic machinery. Farther down the river towards the junction are very large deposits of sand and gravel over and between which, the river flows down towards and below the junction forming a basin filled with dredgeable material. On the west side of Rio do Inferno near the junction is located a small town of about one hundred inhabitants, called Itaipaba, which is an Indian word and means "Round Stone." In the immediate vicinity of this place commenced the workings in the Serro Frio diamond fields, and were kept up all through the contract period and the subsequent Royal extraction. The neighborhood of Itaipaba was the center of activity. The little town is now simply an aggregation of small dilapidated huts and the present remnant of its former population subsists on small gold and diamond washings in accessible places where the old tailings have been worked many times before. A Catholic Church, once the pride of the place is now a ruin. I gathered much information from the family of Captain Rodriges. They had lived for several generations at Itaipaba and knew all that had been going on there for nearly a century past, and they stated that no attempt has been made to empty the gold and diamonds from the bottom of the river at and near the junction of the rivers, excepting the understanding made by Senhor Anselmo de Andrade some four years ago.

Captain Rodriges took us along down the river to the immense sand bar, where yet to-day are some evidences of Anselmo's work. A large sum of money was spent in digging a deep trench down through the accumulated sand and gravel and the walls were planked as they went down; pumps were used to keep the water out. When the work had proceeded in that manner deep enough to reach the stratum of gravel in which the diamonds are found, floods set in filling up the trench and ruining the work entirely. Senhor Anselmo is a partner of the largest diamond dealer in Diamantina, and he told me personally of the attempt

made by him at Itaipaba, stating that it cost him a very large amount of money and that the treasures at the bottom of the basin near Itaipaba could hardly be extracted in the primitive Brazilian way on account of the floods and the rush of water from below.

It was difficult to see how it could have been possible to exploit this place because natural conditions seemed to forbid the turning of the river course and the volume of the water is too great and the bottom too deep for ordinary methods. A dredge would seem to be the only practical means for raising the sand and gravel from the bottom of that inaccessible basin.

Itaipaba is about fourteen miles from Diamantina and the road down towards the river was built up and along the mountains by the Portuguese government at much labor and great cost during the slavery period. Half way between Diamantina and Itaipaba lies Curra Linho, which is to-day a very flourishing little town of about one hundred inhabitants. At this place a fabulous wealth of diamonds was taken out during the Crown extraction and it became famous all over the world for its rich fields. Curra Linho has the honor of being the last place in the Serro Frio district where the Crown of Portugal operated, and there through the fearless and successful opposition of the people, the hated usurpation over the diamond workings in the State of Minas found its grave.

Close to Itaipaba and near the road to Diamantina lies a famous diamond stretch called Cavallo Morte (Dead Horse). This territory was bought last year by the Tarbutt Company of London, England. They were making proofs in different ways upon the ground while I was down there and contemplated putting in hydraulic machinery to extract the diamonds.

After the preceding deviation we shall now take up again the historical narrative of Dr. Santos:

Not enough diamonds were found in Goyas to defray the expenses of the enterprise, and Brant was permitted to remove the 200 slaves from Goyas to Serro Frio to work with the 400 slaves at that place.

Felisberte Brant acquired great wealth and lived like a prince but was loved by all the people as they profited by his far-reaching activity. On account of intrigues and participation in various incroachments his accumulated fortune was confiscated and he himself sent a prisoner to Lisbon. He was kept in prison a long time. During the historical earthquake in Lisbon, Nov. 1, 1755, the jail tumbled down and great numbers of prisoners suddenly found themselves free amid the ruins, and among them Felisberto Brant. Running out upon the streets he cried in desperation: "Thieves!" "Give me back the money you have robbed from me." He rushed in his prison garb to the ministry and said, "I am Felisberto Caldeira Brant, contractor for the diamond district of Tiiuco. I have waited since 1753 for a settlement of my estate. The jail I was in was shaken down by the earthquake, and now I see the light of day. I present myself here that I may be assigned to another prison to remain until justice is done to me." Surprised, the minister, Sebastian de Carvalho, answered, "No need for a prison for one whose conduct is so noble. Go where you like. Call again when this misfortune which has befallen us is relieved in a measure and justce shall be done in your case." He went to a little place near Lisbon shattered in health and died there three months later. His wife and children never succeeded in regaining the confiscated possessions, but the family acquired another fortune and is now one of the wealthiest and most influential in Brazil.

(It was through the agency of Augusto Mario Caldeira Brant, a decendant of the great contractor that Itaipaba was purchased for the Brazilian Diamond, Gold & Developing Company. Mr. Brant acted as agent for his uncle who was the owner.)

Under the 6th contract Tijuco flourished more than ever; never before had so many diamonds been found.

While digging at one time a trench to drive a waterwheel they found in a short time 10,000 oitavos (one oitavo 17 1-2 carats) of diamonds besides what the slaves were allowed to keep. When a slave had found a certain number of diamonds he was permitted to mine for himself the rest of the day. This last contractor was a good man. When this great find of diamonds took place he fell on his knees and cried out: "Oh Lord, if these treasures should become the means of my perdition grant then that all these diamonds turn into coal!" Great quantities of gold were also found there at the same time. In 1771 the Portuguese government took the mining into its own hands and under the so-called Real Extraccao (Royal Extraction) rich finds were made in Pocao de Moreira on the Jequitinhonha river. Regarding the work on this river the quoted author says:

"To use the river Jequitinhonha with profit it must be turned. Formerly portions of the river that were broad and shallow were sought. Large trenches or ditches were dug beside the river, and its water turned from its course, making possible the search for diamonds in its bed. Usually however, this method could not be successfully used and it became necessary at great expense to build cercas or flumes of wood whereby the whole river was raised from its bed. On account of natural disadvantages even the cercas were often unavailable. Consequently, there lie to-day in all their virgin wealth the depths of the Jequitinhonha beyond the reach of man, until a future time when a new generation with superior machinery and more effective means shall uncover the centuries old treasures to the wondering eyes of man."

(Almost verbatim from D. J. Felicio dos Santos.)

The Crown of Portugal commenced to operate the diamond fields by a direct system after December 31st, 1771, when the last contract expired. Three men were appointed to superintend the work in Tijuco jointly with Junta Administrativa, all under the ministry of finance in Lisbon. This system was organized by royal decree called Livro da Capa Verde. (The book with the green cover) of Aug. 2nd, 1771. Under this system the district of Diamantina was governed till Brazil received its new constitution in 1822. When the independence of Brazil was proclaimed in Diamantina the same year the people shouted: "Viva a liberdade" (Live liberty) and "Morras ao Livro da capa verde" (death to the book with the green cover.)

On the 13th of October, 1831, the town of Tijuco had its name changed to Diamantina.

Conditions under the Junta Administrativa grew worse from year to year and in 1832 and 1833 the people suffered starvation. To lessen the distress the Junta gave permission to pan gold and diamonds in certain places in the district. By Royal decree of December 24th, 1845 the Junta Administrativa was dissolved and the hated "Royal Extraction" disappeared.

From this time on the land was parcelled out in lots and leased for periods up to 10 years at a rental that varied somewhat from time to time commencing at about 2 cents for 4 square meters and was after-

wards reduced in 1852 to ½ cents per 100 square meters per year.

How many diamonds have been found in the Serro Frio district is impossible definitely to calculate. We know that the amount exported was enormous. As early as 1734 to avoid a slump in prices because of overproduction diamond mining was for a time entirely forbidden by royal decree.

The contractors paid in their day an enormous direct tax and through the Royal Extraction the Crown got 1,354,770 carats diamonds besides 80 stones each weighing 17½ carats or over. Most of the purest diamonds were smuggled out of the country and no record kept of them at all.

An English naturalist and diamond merchant from London, by the name of John Mawe, traveled through the district of Serro Frio in 1807 by permission of the government. He says in his account: "As the diamonds of Serro Frio are very beautiful they are always in great demand and were a grand speculation. Diamonds came to Europe in such quantities that it was feared prices would fall. To prevent this a rumor was sent out by design to the effect that the Brazilian diamonds were far inferior to those from India. Other speculators published the statement that these stones were not from America but were sent from India to Rio de Janeiro and from there exported to Europe. All these erroneous communications occasioned a distrust and falling off of price in Brazilian diamonds. It became possible for a few speculators to monopolize the business. They sent the diamonds to India from Brazil and from India they were shipped to England as real Indian stones. From England they were sent far and wide throughout Europe, sold at the highest price and acknowledged everywhere as the most beautiful Indian diamonds. This went to show that they were not inferior to the choicest diamonds from Golconda, India. The people learned the facts in the case, but the distrust against Brazilian diamonds rankled in their minds for some time. It can, however, be truly said that Europe depends almost wholly upon Brazil for her supply of diamonds." John Mawe had good reasons for saying that the sale of smuggled diamonds amounted to ten million dollars. He knew the price and quality and could speak as an expert.

Manuel Fereira da Camara Bittencourt was the Crown's Intendant in Tijuco from 1807 to 1822. He was one of Brazil's greatest scientists. He had studied chemistry and mineralogy in a number of the countries of Europe, and among them Norway and Sweden, and especially at the University in Upsala, which at that time was famous, having as teacher of botany the great Linne, and Scheele as teacher of Chemistry. Intendant Bittencourt was the first native of Brazil to reach that high station.

At the audience granted him by King John the 6th, he said: "The diamond fields in Minas have all the conditions for a grand development. The future is most promising if practcal methods are pursued. There is an inexhaustible supply of never-ending wealth, of which we have heretofore secured but a small part, because we have not understood how to operate in the right manner."

Immediately after the Junta had lost its power conditions were again favorable to the seekers of gold and diamonds. Those who were without capital went freely about digging and washing and kept the profits for themselves. The grantees who formerly had the right to mine and wash gold free on delivering the diamonds they found to the Crown, now sold both gold and diamonds on their own account. Fabu-

THE CHARITY HOSPITAL, DIAMANTINA.

lous wealth was taken out of the earth. These few years are said to have yielded more diamonds than the 70 years under the "Royal Extraction."

The reports taken from the book of Dr. Santos partly literally translated end at this point. He had naturally no other object in view in writing this book than simply to preserve and communicate to his own Brazilian countrymen the history of the Serro Frio district.

What occurred after the Royal Extraction in the year of 1845, and down to the time he wrote the book, 1862, is not fully gone into, only that the land was leased in parcels, and mining was thus a private enterprise. The fact that he says nothing of this period, would naturally lead to the conclusion, that there were at this time no great undertakings. The work continued, however, according to hearsay.—Men with little or no capital, went about in small groups with their bateas from place to place where work was easiest. These people were mainly negroes and mulattoes, who required but little to live. When a find was made, they rested, and when they had consumed their means, they set out with their batea again.

The discovery of diamonds in South Africa, about the year 1870 caused a fall in the price of the brute diamonds from $14.00 to $3.00 a carat, causing practically cessation of operations in a larger measure. A great number of the wealthier families moved eastward and went into coffee growing, a business just then in a most flourishing state. They continued to own vast stretches of mining land however and the Videgal family is one of these.

Diamond Cutting.

On the 31st of October, I went to visit the greatest diamond cutting establishment near Diamantina. It is about an hour's walk from the town and lies on a little stream which furnishes sufficient water-power for grinding. It is owned by Antonio Eulalio de Souza, the greatest diamond merchant in town. There were in all 18 wheels. The employees were all natives and one-half of them were girls. A young man who has learned his trade earns about $25.00 a month and boards himself, and the girls, who do the polishing, about half as much. They work eleven hours a day. The rough diamond is placed in a doughlike mass of cement the size of an egg. As the cement hardens the diamond becomes fairly embedded in it. When two such lumps of cement with the diamond stuck in them are prepared, the cutter takes them in his hands and rubs them together. They cut one another and the falling dust is gathered in a small box. It is hard work and great callouses are formed on the hands. As the cutting proceeds the diamond has to be taken out and turned. This is done by warming the cement a little. After this cutting of the stone it is polished on a small steel wheel covered with a sort of emery made of the diamond dust saved from the cutting. The foreman was quick to judge of the qualities and value of the stones.

There are 23 of these diamond cutting establishments in the district of Diamantina, having altogether 229 wheels, only 60 of which were in operation while I was down there, and of these 25 were in the town of Diamantina.

Visiting Boa Vista.

Nov. 4th, Mr. Schlytter and I went to Boa Vista on muleback. It is about 12 miles from Diamantina. A French company with headquarters in Paris has for a number of years carried on diamond mining there. The machinery was inadequate and the appliances chiefly of wood worked rather poorly and it is run by electricity the power for the generating of which is furnished by a little river called Santa Maria.

Boa Vista (beautiful view) is on a plateau (chapada) 7 miles from Jequitinhonha river on a creek called Bom Successo (Good Luck). From this creek water is pumped to the mines a distance of 1,500 meters (4,500 feet.) and upward about 95 meters through iron pipes 12 inches in diameter. The mines are situated in a declivity of red earth, sand and gravel. The excavation is perhaps 50 to 75 feet deep at which depth is a 3 or 4 foot bed of diamond yielding gravel. They wash away the worthless upper layers by flooding and then running the water off again through a cut. It carried away the loosened earth which is red as crushed brick. The gravel carrying diamonds is then taken to the machinery about 500 feet down the slope in about the same way. Here it is sifted and lifted up into the sluices that carry it to three different condensation cylinders which sift it over again. From these cylinders the mass, according to the coarseness of the gravel is run into smaller sluices, and then to slanting tables 6 feet long and 4 feet wide. These tables have a jarring motion and stones of about the same size dance about on its surface. A trustworthy man stands on each side of the table. They pass their hands through the water among the stones and pick out the diamonds they thus discover. And so this mill runs the whole day. By specific gravity the smaller diamonds are gathered into a box under the floor. This box is locked and the key is carried by the Director who empties it every evening.

To separate the small diamonds in the sluices little balls made of a substance of about the same specific gravity as the diamonds, are used. These balls roll with the slower, less perfectly rounded diamonds and help them on. The electric machine is 80 horsepower. The heaviest single part of which weighed 3,000 kilograms (6,600 lbs.) and was taken 125 miles over the mountains by ox teams. There is a little machine shop where they have a few tools and extra pieces and there is also a mechanic to do repair work and run the machine.

We arrived at the Director's residence in the forenoon. It is half a mile from the mines and is lighted by electricity and has a telephone connection with the mines. The Director is a young Frenchman. He lives there alone with his wife and keeps native servants. He gave us an invitation to breakfast which we gladly accepted. Later he showed us about the place and in the afternoon treated us to dinner at his home.

He has a large iron safe in his house for storing his diamonds; he also has guns, revolvers and other weapons—quite a little arsenal. He has some French furniture and lives very comfortably though lonesome in those naked and unpopulated parts.

A great deal depends on the honesty of the Director and his foreman. The old ramschackle works which constitute the company's machinery seem to invite thefts and losses. According to their report to the shareholders June 30, 1902, they had from April 12th, to the last of December, 1902, washed 11,556 cubic meters of gravel taken out 1,266

VIEW [illegible] VISTA DIAMOND WORKINGS.

carats of diamonds, averaging 11 carats for every 100 cubic meters. They washed only 50 meters in a working day. If we place the value of 100 francs per carat for the rough diamond, then this company in eight and a half months, secured diamonds to the value of 126,600 francs. The report explains the cause of the small output viz: Too little water in the river Bom Successo, where they get their supply. Two hundred and eighty cubic meters per hour was needed and often 125 cubic meter was all they got. Too much water is wasted in washing away the loose earth; the machinery is old-fashioned and poor and not suitable for the cascalho (gravel) which yields the largest per cent of diamonds. The substance which yields up to 20 carats per 100 cubic meter is impossible to work with it. The latter is more cohesive. The report refers to a new separating method without the use of water which they would like to try. Meanwhile they will continue as before to patch the machinery as best they can.

Whether much, little or nothing is lost by thievery the report does not say. The laborers are all Brazilians with three or four Frenchmen who are foremen and experts.

I asked the Director as we stood near the foreman at the vibrating tables where the stones of the same size came quivering from the concentration, "How in the world can you keep from having your diamonds stolen?" He shrugged his shoulders, turned on his heel and said in French, "On peut se fier a ces hommes la" (We trust these people).

These fields have been re-discovered within the last two or three years, and many a head is now filled with speculation as to the sort of machinery that shall be of the greatest practical use. All are agreed that the land, and more or less inaccessible river-beds, are rich, but there are countless ideas, some very crude, others more developed, as to the best method of getting at them.

Near the Director's residence in Boa Vista stands a shade tree of unusual size. The trunk measured perhaps 12 feet up to the nearest branches. These grew straight out from the trunk on all sides, and formed a shady bower of over 100 feet in diameter under this one tree. Here they had benches, tables, etc. The branches and the leaves were so thick that the sun did not penetrate. The Director wished the Chicago company success in its dredging operations which were not much understood by him.

Returning from Boa Vista we were caught in a violent rain storm drenching us to the skin. We were altogether unprepared and rode three hours in this manner. We were not cold nor did the wetting leave any bad effects. Our camaradas never wore rain coats, but rode day after day with only a hat, shirt and trousers on. They took this as a matter of course. Their clothes dried on their bodies as they were often without a change of clothing on their trips.

Our usual protection against the rain was an ordinary soft hat which we turned down, a water-proof cape to the knees, English gaiters to the hips and riding boots. Some use a long cape reaching to the ankles together with the boots.

When we returned to Diamantina a man named Thomas Rouse was waiting for us. He was 57 years old and was born of English parents near Ouro Preto, (black gold) Minas. His father was at that time foreman at Morro Velho (old hill) mine which was then and is still run by an English company. Morro Velho mine is one of the largest of its kind in the world and has produced a wonderful amount of gold in the course

of time. It is known to history and lies 100 miles south of Diamantina. Thomas Rouse was very brown and tanned, but was very strong and well built, looking like an athlete among the other natives. He spoke English perfectly, though he had never seen the coast. He had sauntered about his whole life in the Serro Frio district as Faiscador (miner) and often did well. He owned a lavra (diamond washing place) which he was willing to sell, otherwise his object was to call and offer his services as he was well acquainted and knew all the old ways of mining. We told him of the company's intention to dredge the Jequitinhonha river to begin with. The idea struck him favorably; he had all his life long wondered and studied how he might get at the gold and diamonds he knew to be at the bottom of this river. He left his address, said goodbye, mounted his mule and started for the country in a gallop.

Other faiscadores, among them an Austrian, came at various times to talk with me, and if possible to sell either a lavra, a few diamonds or some gold nuggets, which they offered for sale.

A traveler, arriving as I did, attracted quite a little attention among these isolated people. Diamantina has probably 9,000 inhabitants, and only 10 or 12 Europeans or Americans, who come and go.

The following day I received an invitation to dinner from Antonio Eulalio de Souza; his whole family, his partner, Senhor Anselmo de Andrade, and a number of friends were also on hand. Taking all circumstances into consideration it was an excellent meal. It is regarded a great honor for a stranger to be invited to take a meal with the wife and daughters of the house. Antonio Eulalio, as he is popularly called, is a very enterprising man. He has a store well stocked with merchandise of all kinds, has many clerks and does a large business. He buys and sells diamonds and is the representative of Luiz de Rezende who is Rio Janeiro's leading jeweler and diamond merchant. Senhor Rezende is known all over the world as a leading diamond merchant. In Paris his place of business is No. 31 Place de la Madeleine.

Seeing the River.

In the early part of November we set out to look over the Jequitinhonha river; the road took us to Mandanha, about 15 miles from Diamantina. Here we remained over night with one, Figureido, an old mulatto. Mandanha is situated on both sides of the river and has about 1000 inhabitants. An old bridge about 100 paces long crosses the river. As far as the eye can see up stream and down, there is apparently sand bottom and sand banks. We went down along the river on the east side till we reached Lagoa Secca (dry lake.) We crossed the river twice in a couple of hours time. The bend in the river is so great, that by crossing at the narrowest part of the land between, we saved much time. The river being shallow we took the burdens from the backs of the mules and drove them into the water; they half swam over while we followed with our baggage in a canoe. The river grows gradually larger as continually little rivers and streams flow into it. These all show more or less evidences of having been worked for gold or diamonds some time in the past.

There is an almost overgrown path along the Jequitinhonha and it is exceedingly difficult to advance. The shrubs are of a thick growth and below Lagoa Secca guides, who can be depended upon, are hard to get.

TYPICAL NATIVE DWELLING ALONG THE JEQUITINHONHA RIVER.

No one seemed to know the way along the river, though they knew the road on the Chapadas very well.

There are large stretches of the river well adapted for dredging, not only the bed and the banks of the river, but some distance beyond. There appears to be a possibility that the course of the river has not always been where it is now, and in such places the dredge could work through the sand and gravel to the old river bed. There are hillocks and slopes, mountains with under brush, and the river makes numerous turns, so one finds it difficult to determine where it goes at times. For long distances there was not a sign of any work having been done. And then again we came to immense heaps of sand and gravel that had been washed sometime at the very brink of the river. Just below Mandanha there are no high mountains nor any real flat prairie, but the tops of round and half round gravel and pebble piles may be seen all along the way, and the same old red soil is present everywhere. The current of the river is about 3 miles an hour with no water-falls to speak of, though there are a few little rapids. From Lagoa Secca and down to Santa Cruz the river has in many places sandstone which is rather soft and a dredge will be able to crush and disturb a great deal of it. The largest finds of diamonds have occurred in potholes in the smouldering sandstone rocks in the riverbed. Such finds have been irregular. The ordinary finds of diamonds occur in the stratum of casalho down in the ground at certain depths on the chapadas and in the river bottom.

When the natives now search for diamonds in these regions, they dig their way down in between, and under stones and rocks but don't think of moving or crushing them. We saw several canoes on the river fishing for diamonds with a sort of sack scraper fetching up gravel from the bottom. They washed this gravel on the river shore.

The fifth day we dragged our weary way over to Santa Cruz, a distance of about 125 miles from Diamantina, along the river. We were both hungry and travel-stained when we arrived. We slept at night in the filthiest little negro huts. A couple of the mules took sick on the way and were left behind to be called for later by one of the camaradas. One night we were compelled to abandon the hut we were in and slept out of doors even though it rained a little. The odor of carne secca (dried meat), which hung in long strips from the ceilings and walls, was intolerable.

Extremely few people travel along the river, the way being almost impassable. In the shrubbery there are millions of carrapatos, gray colored, swift, hungry, transparent plantlice which seem to sit on the leaves and branches everywhere watching keenly for some man or beast approching near enough to light upon. The faintest touch of the bush and they let themselves go in the air stricking either the mule or the rider and with incredible swiftness they run for lodgment where the chance of disturbance is least. They locate on the head of the mules, inside their ears, under the belly and about the hind legs; they quickly bury themselves in the hair and penetrate the skin with their sharp suckers. In about half a day the color changes from gray to dark red as they fill up with blood and in a few days the greedy insect reaches the size and appearance of a small cherry. They arrange themselves in groups on the bodies of the mules and constant cleaning of the animals is required when traveling through the thick shrubbery near the river.

The carrapatos are equally pestilential towards human beings, especially strangers in those parts, but they are in that case, of course,

easily dislodged. While on mule-back the rider does not observe their sting and on arriving at the stopping place for the night the first worry is to find sufficient privacy to locate and exterminate the carrapatos which have found their way next to the body. It becomes necessary to strip naked and call in one of the camaradas to assist in the hunt. Being as a rule dark in the evening one needs a supply of candles for this purpose. In the native huts they use simply a sort of wick that is steeped in a small clay saucer full of oil or fat. Sometimes we found from 25 to 50 carrapatos on our persons and some of them already as large as a small shirt button. It requires a hard pull to tear one loose and then the prong like suckers are left in the skin, forming a small itching lump which remains some three weeks. The real small carrapatos are the worst ones to contend with, because they seem to dig themselves into the skin and require a knife or sharp instrument to scrape them loose; this awkward situation requires help and the camaradas are quite skilled in the operation laughing themselves into hysterics over the predicament of the helpless traveler. The blankets which we carried filled up with carrapatos and repeatedly during the night we grew desperate, kicking everything in the air, lit the candles and helped one another. After much excitement, fun and some profanity, sleep forced itself upon us and in the morning we picked ourselves clean and started for the next day's ride.

These carrapatos are the meanest little insects on earth and the sight of one arouses irresistable determination to kill without quarter. A clumsy man is called a Macaco (monkey) and a mean man is called a carrapato.

At Santa Cruz is a little country store and here we again crossed the river. It was very broad but so shallow that the animals waded over. About 5 or 6 miles above Santa Cruz the Maccahubas river flows into the Jequitinhonha, and at their confluence are great banks and bars of sand and stones. This place is considered rich. Not only gold but more especially diamonds, have been found in great quantities here.

Three or four Faiscadores took out, according to their report last year 32 oitavos (544 carats) of diamonds on the banks of the river. We visited this place and to judge by appearance the attempt made was very insignificant. No work was going on while we were there, but it was expected that in a few weeks some faiscadores would begin to operate again in the banks of the river. We went up the river in canoes to the mouth of the Maccahubas. The banks and bottom of the Jequitinhonha on this stretch were rocky except short intervening stretches of sand and gravel, judging from the appearance of the banks. The rocks at this place were also a kind of crumbling sandstone among which a dredge could probably do considerable excavation and work its way from one dredgeable stretch to another. This matter is however for an expert in dredging to pass upon.

Maccahubas has produced great quantities of diamonds, and there are found the peculiar stones called Alambriados (amber colored). These are sparkling and bright, and can be mounted without being cut. The sizes are small but these stones are rare and greatly admired by the ladies of Brazil, who often prefer them to cut stones, called brilhantes (brilliants). I bought, rather cheap a couple of alambriados from a boatman and faiscador. There are plenty to be had if one only knew the value and how to select good ones. The store keeper at Santa Cruz is also a diamond merchant. He is a son-in-law of Senhor Brandao, who is

VIEW OF WORKING ON JEQUITINHONHA AT ST. ANTONIO.

the largest diamond dealer in those parts and owns a very large Fazenda about eight miles from Santa Cruz. We paid a visit to Mr. Brandao and found him a very kind, hospitable man. His Fazenda covers about 16 square miles, is well stocked with cattle, mules and pigs; he raises much corn, beans and sugar-cane, has a grist mill and a distillery on the fazenda, keeps a large number of mulatto servants and lives in comparatively opulent style like a large land-owner in our Southern States.

The Brazilian Diamond, Gold and Developing Company has bought and has under contract fourteen government concessions on the river Jequitinhonha; about one-half of those concessions are above and the others below the river Maccahubas. Each one of these concessions is one legoa quadrada (square league) in area. One legoa is 6 6-10 kilometers or about 4 miles, hence each concession is about 16 square miles and the entire area of the river bed banks and adjoining land, which the company has under this contract amounts to 224 square miles.

At the request of Thomas G. Schlytter, the government of the State of Minas put a Brazilian engineer, named David Jardim, to work last fall in the month of October to survey, measure and plat these concessions, the government promising to guarantee the titles as soon as the survey is finished. This work is now in progress with about eight or ten men and is calculated to be finished early this summer. Until the survey is made it is not possible to state the length of river bed, which is included in these concessions because some of them are long and narrow and others are about square but they are all to contain one legoa quadrada each.

Scattered all along the river are some squatting settlers holding title to small patches by reason of 30 years' homestead residence with payment of a small annual tax, and these little holdings must be ascertained, platted and deducted from the concessions; that work is also being done by the engineer now at work.

The annual tax is at the present time 120 milreis ($30.00) per concession. There is considerable good timber near the river at Lagoa Secca and Santa Cruz in different places and a steam saw could be employed there to good advantage.

From Santa Cruz to Terra Branca (White Earth) is 7 or 8 miles and there Jequitinhonha has some rough rapids. They are shallow and full of rock with short distances in between where the river flows slowly over sandy bottom.

From Terra Branca to Diamantina is four days hard riding over the plateaus (chapadas). The land was very rich and productive especially near the river, but there was no tilling of the ground, nothing but litte negro or mulato huts where the people idled away their lives to no purpose, except to exist.

I pitied the beautiful children I saw growing up in these environments. In spite of their isolation, ignorance and indolence they were as happy as Diogenes in his barrel. They never suffered hunger; the climate was healthful. The people sang, the children played all day in the bushes of rivulets among the chickens, cats, dogs, and lively little pigs, bringing to their homes as playthings gaudy butterflies (borboletas), insects, crystals, agates, and other glistening stones of all shades and shapes. To refresh themselves they drank of the pure, clear water in the brooks, picking fruits and berries as they romped about breathing the fresh, invigorating air of the high plateau of Serro Frio. Toil and drudgery seemed far from their comprehension; they simply lived and nature provided.

Even the very mules in those parts had an innate contempt for work; in the lead of a mule troupe was usually placed an old horse with a bell round his neck to keep the mules together and such a horse was called a madringa. If a packsaddle was placed on the madringa the mules lost all respect for him and his leadership came to an end. Taking off his load the mules followed him patiently again.

It would have required at least three weeks to make a trip to Grao Mogol and back to Diamantina, and as I had other things to attend to I did not make the journey and hence I cannot describe these concessions; they are 33 in number and each is about 16 sq. miles (making a total of 528 square miles) so the company has there an immense area under contract. Dr. Catao Gomes Jardim has made careful investigation of the Grao Mogol region and the company has already published his report. I paid a visit to this estimable old gentleman while I was in Diamantina; he enjoys a high reputation as a mineralogical student and an honorable man; he is about 70 years old and is the father of the Government engineer surveying the Jequitinhonha river concessions. He told me among other things that Jequitinhonha is a composite Indian word and means approximately "River where fish is trapped," Dr. Jardim has a fine, cosy home with a quaint garden, in the heart of Diamantina, and possesses a rare collection of minerals and books on that subject. We made arrangements with Dr. Campos of Sao Paulo, to go to the Grao Mogol district to survey, prospect and plat those concessions for the company.

Pretty good farming land can be bought cheap just outside the Districto Diamantino. Inside the district farming cannot be carried on except for purposes of supplying the needs of the mining operations. There is no market for farm products and the land is very uneven but the arable patches in these mountains are very fertile and there are great opportunities for an isolated quiet rural existence with many splendid outside chances for an enterprising family. Taxes are light; religion is free, though the Catholic prevails. In Diamantina was a very flourishing masonic lodge to which some of the wealthiest men in town belonged. The schools are free, but the system is very imperfect. The constitution of the Republic of Brazil was adopted in 1890 and follows in all essentials our own constitution and the same is true of the general legislation. The courts recognize the civil law (Roman Law) as the fountain head. The language of the republic of Brazil is Latin in its origin and possesses the rich historical treasures of that great mother of speech.

Before leaving Diamantina I visited the adjacent diamond fields of Sao Jao da Chapada, Sopa and Calderao. Mining at the former place was very profitable till 1874, when the price dropped from 14 to 3 dollars per carat by reason of the opening of the South African mines. All work ceased when the slaves were freed in 1888. Thus ended the old method of mining in Diamantina, but now it ought to be profitable again, even by the old system, because the price of diamonds is higher than ever before and is still raising.

At Sao Joao da Chapada I obtained my information from Justino Fernandez, a highly respected and well-to-do mulatto 62 years of age. He was formerly a slave and bought his freedom for two contos ($500.00) in 1860. He had resided 46 years at this place. He does very little work with the batea now. He had perhaps 50 diamonds to sell from ½ to 4 carats each, which he had partly found and bought within two or three months.

In sopa (soup) a little batea work is carried on by the owner, Givotti,

BUILDING KNOWN AS LUIZ DE REZENDE'S HOUSE, DIAMANTINA.

who also had a few diamonds for sale. Givotti is a wealthy Mulatto, who has no idea of modern expedients or methods.

Large capital would be needed to start work there in the manner suitable to the requirements. One or two men even with a little capital can accomplish nothing.

Summing up.

1. Jequitinhonha runs through Districto Diamantino like a backbone. The records of the earlier workings and the reports handed down through several generations prove that enormous fortunes were taken out of the Jequitinhonha in both gold and diamonds; that the tributary creeks and rivulets flowing through the diamond district and emptying into the Jequitinhonha have been washed over and over again with the batea, and that immense piles of tailings from old lavras (washings) along these creeks are still being washed to advantage by the natives in the old primitive manner; that the Jequitinhonha itself was turned, flumed and washed aggressively above the town of Mandanha; that below Mandanha the river carries too much water for successful operations with the batea; that the company's claims under contract are all below Mandanha, (except the separate purchase of three short claims at Itaipaba) that for a distance of about 150 miles below Mandanha down to the Grao Mogol country the river banks in certain places have been worked and faiscadores (roving miners) are now from time to time making large finds of rich diamond gravel along the river course; that upon the river itself below Mandanha the natives in many places are using canoes and a peculiarly old fashioned contrivance for scraping loose and fishing up in a sack some gravel from the bottom of the river taking it ashore to be washed when the canoes are full; that the numerous tributary creeks and rivulets are carrying gold bearing sand into the Jequitinhonha from the chapadas (plateaus) where so many fortunes have been made in gold washing alone; that many individual miners are now washing for gold profitably here and there all over the entire diamond region; that the Districto Diamantino may be said to be approximately about 400 miles long and about 200 miles wide; that the company's claims on the Jequitinhonha take in particularly one river bend where a canal could be cut almost entirely with a dredge (upon the statement of Dr. Campos) and thus several miles of river bottom could be laid bare while the dredge might be plowing through valuable deposits across the narrow neck of land; that historically, geographically and traditionally speaking the Jequitinhonha carries fabulous wealth of both gold and diamonds in its course and should afford unequaled opportunities for making fortunes in operations with the American dredge. The fourteen concessions on the Jequitinhonha river were described by metes and bounds in the contract for sale; the old metes and bounds such as trees, ditches lavras, creeks, etc., could no longer be located with certainty and the government was then appealed to for a conclusive survey, remeasuring and establishment of boundaries of these concessions and their official platting in the registry office at Diamantina. Engineer David Jardim was appointed by the government for this work, as already stated. It has been difficult to make this survey as the rainy season has caused many delays in locating points and places.

2. That the question of transporting the company's machinery has been investigated, and that from the present end of the railroad at a point called Curvello to the upper limit of the company's 14 concessions is somewhat less than 100 miles and fully two-thirds of the way has a passable

oxcart road and the balance of the road can be fixed up at comparatively small expense; that there are several men in that region engaged in transportation of this kind, and that they can put up security for the fulfilment of their contracts.

3. That the 33 concessions which the company has under contract down in Grao Mogol are very valuable property. Mr. Brandao near Santa Cruz, of whom I have already spoken, lives about half way between Diamantina and Grao Mogol and he is one of the heaviest buyers of diamonds from the Grao Mogol faiscadores; he had a considerable number of carbonados (black carbons used in diamond drilling) on hand besides ordinary diamonds, when I saw him, which he had recently bought down in Grao Mogol and had just before I came down there, sent off to Diamantina a large shipment of stones from Grao Mogol. There being a large number of indolent squatters living here and there on small patches of land it became necessary to survey the concessions in order to learn how much land is held by these squatters within the company's limits, because the purchase price for the tract was to be reduced according to the extent of the holdings by squatters. For this work we secured the valuable services of Dr. Campos who at the same time was to prospect the property and definitely locate the limits of the concessions. He started on his work in December, 1903, in the early part of the rainy season, and had a most difficult task before him. (Upon report from Mr. Schlytter the work of Dr. Campos and his assistants in Grao Mogol was completed towards the end of May; the company gets 25 concessions instead of 33 and the purchase price was reduced so materially as to make practically a new deal much in the company's favor.) A complete report from Dr. Campos will be sent to the company in due course, but it will require considerable time for him to plat the concessions and write down his observations upon the richness of the ground. The region is very rough and lying about 150 miles north of Diamantina the climate is a little warmer.

4. That absolute ownership of the mining lands and rivers in Districto Diamantino cannot be obtained but simply government leasehold concessions, which run on forever on payment of taxes by the concessionaire from year to year.

That good titles to these concessions can be obtained but that careful local examination, survey and platting must be made according to rules before the government will guarantee the titles.

That the government is staple and that European immigration largely from Germany, into the southern states of Brazil and large investments of English capital in industrial enterprises have reduced very materially the possibility of revolutions.

5. That the Brazilians possess many excellent qualities; that they yearn for development and realize their industrial weakness and that they welcome capital, machinery and methods from the United States.

6. That the yellow fever and bubonic pests are not to be dreaded as much as formerly because they are filth diseases, and rivers, harbors, cities and homes are being made more and more sanitary from time to time.

7. That the Brazilian Diamond Gold & Developing Company, being a pioneer in this field, has had to feel its way carefully, seeking bottom prices for land, measuring, surveying, platting and investigating titles. The old system of conveyance and registration was extremely loose and

hazardous, and upon our initiative that matter has been greatly improved and revised.

8. That the organizers of the company were deficiently advised in the beginning but that essential points relative to the lands in question as well as Brazilian laws and conditions bearing on the entire enterprise have now been thoroughly investigated.

9. That Thomas G. Schlytter, who gave up a good position with a large firm in Chicago and volunteered his services for the company in Brazil, is a remarkably bright and clear headed young man with a thorough business training; that he speaks and writes fluently, French, Portuguese, English and German, and that through his persistent, fearless and painstaking services on the premises for over one year the company's affairs in Brazil, have been placed on a sound footing. An agreement was made with him for another year's service.

Starting for Home.

Before leaving Diamantina I said a hearty farewell to my host, Matta Machado, and his amiable family, the district judge, the company's local attorney, Augusto Mario Calderia Brant and wife, who is of English descent, to Antonio Eulalio de Souza and to many other Brazilian business men of short acquaintance.

The evening before my departure Senhor Anselmo called and asked me to have the kindness to take with me, over the mountains and down to Luiz de Rezende, in Rio de Janeiro, 40 contos de reis ($10,000) in paper money and placed the roll on the table. At first I hesitated and called his attention to the possibility of loosing the money on the way and that it would be at his own risk; he persisted in his request and I finally asked him what sort of receipt he wanted. He shrugged his shoulders and said "Nao e necessario" (It is not needed). He left the roll with me and said goodbye in the kind Brazilian way, and wished me a pleasant journey.

We carried the money down to Rio and delivered the roll to Mr. Rezende, who thanked us for our kindness. This incident is a fragmentary picture of the old-fashioned confidence still prevailing in Brazil in business life. Large shipments of diamonds and gold are made in the same manner from the Serro Frio district to Rio de Janeiro.

The trip to Rio went smoothly enough, likewise the trip to Sao Paulo to consult Dr. Derby and Dr. Campos. Dr. Derby has an elegant office as president of the Geological Commission. He is a prominent man of international reputation as Geologist. He recommended Dr. Campos as an honorable man and a skillful mining engineer and further said that he would personally stand for the professional work Dr. Campos might do for the company.

Dr. Derby himself made a tour of scientific research into Districto Diamantino some 4 or 5 years ago. He did not then specially investigate the Jequitinhonha river with a view of exploiting its banks and bottom. The learned doctor stated however, that the American dredge had proven itself an efficient and advanced appliance in gold extraction and that similar dredges equipped additionally for diamond separation on the Jequitinhonha river, when properly directed and honestly managed, might show rich results. He informed us of an English company just organized with considerable capital for exploiting recently purchased diamond ground at Augua Suja (dirty water) about 130 miles from Diamantina. Dr. William Derby is a man about 50 years old, well preserved in health and glad to

meet fellow Americans from the states, though he is a Brazilian in thought and domestic attachment.

The Geological and Geographical Commission in Sao Paulo was instituted 18 years ago upon the proposition and initiative of Dr. Alberto Lofgren, a Swede by birth and a graduate from the University of Upsala. Dr. Derby completed his course at Cornell University. He was made president of the commission and its professor of geology. In the absence of the president Dr. Lofgren takes his place. Dr. Lofgren came to Brazil about the year of 1880 to arrange the late Professor Regnell's botanical collections. He has resided there ever since and is now by far the greatest botanist of Brazil with a reputation throughout the scientific world. I called to see the distinguished doctor but failed to find him in his office:

In Brazil the title of doctor is by law given the physicians, their emblem the "Emerald," to pharmacists, their emblem the "Topaz," to lawyers, their emblem the "Ruby," and to engineers, their emblem, "The Saphire." These emblematic stones are set in rings and worn on the index finger of either hand.

The city of Sao Paulo is the capital of the state of Sao Paulo and is the most modern city in all Brazil; its population is about 250,000 consisting largely of Europeans; mostly Germans and Italians. It is the center of the great coffee market of Brazil and is near the well-known export city of Santos. A Canadian company with large capital and headquarters in Toronto is operating the street cars of the city and is furnishing electric power for numerous mechanical undertakings. In Sao Paulo, I visited a popular young American dentist named G. Hansen, he was of Norwegian descent born in Philadelphia; he had been in the country about seven years and made a fortune in his profession.

One can hardly see the difference between Sao Paulo and a city of the same size in the United States. The milk dealers constitute probably the only real exception in matters of popular custom, because like all Brazilian inland cities the farmers take their milk cows through the streets, a bell around the cow's neck and the udder bursting with milk, while the vendor shouts as he proceeds, "Leyte fresco" (fresh milk).

While in Sao Paulo we secured the services of Dr. Campos to go to the Grao Mogol region to examine, survey and plat the 33 concessions as already mentioned.

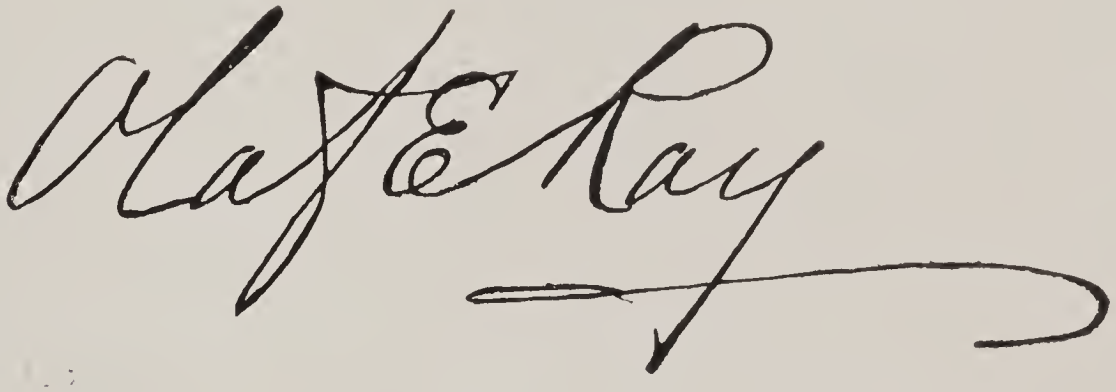
About 24 hours ride on the train took us from Sao Paulo to Rio through rich coffee plantations part of the way.

On calling at the British Bank of South America in Rio I found that a traveler from the states had raised a loan of 25 cents per share upon a large block of the company's stock; the cashier of the bank, Mr. Green, said that the transaction was made on the strength of the company's good showing in pushing the dredging plans on the Jequitinhonha river; he had engaged in financial matters in Brazil for over ten years and had some knowledge of the Serro Frio gold and diamond region.

In Rio I engaged, upon the recommendation of the United States Consul, one of the foremost lawyers to attend to the company's legal matters there. He is a Brazilian of high standing and good connections speaking French very fluently. Looking over several of his briefs shown me pertaining to similar cases I found that decisions of the courts of France were quoted freely as precedents and that the higher judiciary of Brazil must be familiar with the French language.

I visited some English brokerage firms in Rio regarding the handling

of the company's imports of machinery, etc., but left more definite arrangements to be made by Mr. Schlytter.

S. S. Byron, Captain Cadogan, of the Lamport and Holt Line (English) was ready to leave for New York on December 2nd, and I rushed my departure to reach home for Christmas, paying $135.00 for cabin passage. It took 18 days to New York touching at Bahia, Pernambuco and Barbados and passing close under the coast of the rich West Indian Islands of Santa Lucia, Martinique, Guadaloupe and Eustatius.

The people of the United States have not so far led their financial strength and enterprising genius in the direction of Brazil. The opportunities in that rich country are however almost unlimited and fertile states as large as Texas are still virgin ground while the populated portions need industrial improvements of every kind. We are as welcome down there, as the Germans and the English and furthermore we are fellow Americans to start with.